

## Patent Abstracts of Japan

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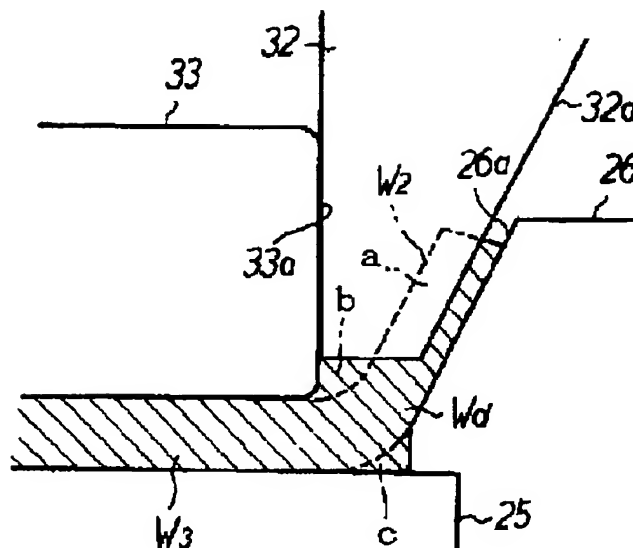
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TITLE : THICKNESS INCREASING PRESS  
METHOD FOR SHEET METAL



ABSTRACT : PROBLEM TO BE SOLVED: To provide a thickness increasing press method for a sheet metal capable of forming a thick-walled part free of fold marks in part of the sheet metal only by the pressing without requiring machining.

SOLUTION: The thick-walled part  $W_d$  is formed in part of the sheet metal through a preforming stage for forming a tapered flange part in part of the sheet metal blank by tapering or tapering process and a thickness increasing stage for crushing part of this tapered flange part in a direction where its thickness decreases, thereby fluidizing an excess metal (portion a) to required points (space parts b, c). The thick-walled part  $W_d$  is formed in part of the sheet metal by crushing part of the tapered flange in the direction where the thickness decreases and fluidizing the excess metal generated by the crushing within the range of the thickness of the sheet metal blank in the thickness increasing stage and, therefore, the generation of the fold marks in the thick-walled part  $W_d$  is averted and, consequently, the need for the machining to remove the fold marks is eliminated and the formation of the thick-walled part  $W_d$  free from the fold marks in part of the sheet metal only by the pressing is made possible. The man-hours for working may be decreased and the cost reduced.

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